APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/420,772	10/19/1999	OSAMU YAMADA	862.3073	3279

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EXAMINER
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ART UNIT	PAPER NUMBER
2623	4

DATE MAILED: 07/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-19* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-19* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *19 October 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

   If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All   b)☐ Some *   c)☐ None of:

   1. ☒ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

   a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2.   The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) do not apply to the examination of this application as the application

being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

published under 35 U.S.C. 122(b). Therefore, this application is examined under 35

U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3.   Claims 1-10 and 12-19 are rejected under 35 U.S.C. 102(e) as being anticipated

by Miyashita U.S. Patent No. 6,031,543.

Referring to claim 1, Miyashita teaches an image processing apparatus

comprising:

Saturation calculation (saturation correction) means (FIG. 16) for calculating

saturation information of an image;

Parameter setting means for setting a plurality of parameters (column 10, line 25-

29) used to convert saturation of the image (column 11, line 33-37); and

Saturation conversion means (FIG 44 and FIG 45) for converting the saturation

(column 3, line 40-44) of the image on the basis of the plurality of parameters.

It is inherent that saturation calculation also is saturation correction especially as demonstrated in FIG 16, a saturation correction requires analysis of color and colors saturation conversion.

For claim 2, Miyashita discloses the apparatus wherein said parameter setting means sets the parameters for low- and high-saturation sides of the image (FIG 10 and column 6, line 24-30).

For claim 3, Miyashita also teaches the apparatus wherein said parameter setting means sets the parameters on the basis of the saturation information of the image (column 10, line 25-29 and column 11, line 33-37).

Referring to claim 4, Miyashita teaches the apparatus further comprising:

Instruction means for making an instruction input by a user (column 3, line 58-60), and wherein

Said parameter setting means sets the parameters on the basis of the instruction by said instruction means (column 3, line 61-64).

For claim 5, Miyashita also discloses the apparatus wherein said saturation conversion means determines saturation conversion characteristics (FIG 16) on the basis of the plurality of parameters, and converts the saturation of the image on the basis of the saturation conversion characteristics (column 8, line 10-29).

For claim 6, Miyashita further teaches the apparatus wherein said saturation conversion means determines saturation conversion characteristics on the high- and low-saturation sides of the image (column 6, line 24-30) on the basis of the plurality of parameters (FIG 9 and FIG 10).

Referring to claim 7, Miyashita teaches the apparatus wherein the saturation conversion characteristics exhibit a monotonous increase (column 11, line 33-46).

Referring to claim 8, Miyashita also teaches the apparatus wherein the saturation conversion characteristics exhibit a monotonous decrease (column 11, line 33-46).

Referring to claim 9, Miyashita discloses the apparatus wherein said saturation calculation means (FIG. 16) calculates the saturation information of the image by converting the image expressed in a first color space into a second color space (FIG 12).

For claim 10, Miyashita also teaches the apparatus wherein said saturation calculation means (FIG. 16) further converts the image, which has undergone saturation conversion in the second color space by said saturation conversion means, into the first color space (FIG 11).

Referring to claim 12, Miyashita discloses the apparatus further comprising:

Detection means for detecting a color distribution of the image (FIG 6, FIG 7 and column 5, line 54);

Generation means for generating gradation correction information (column 8, line 44-46) of the image on the basis of the color distribution; and

Gradation correction means for performing gradation correction of the image on the basis of the gradation correction information (column 8, line 22-29 and column 8, line 52-55).

For claim 13, Miyashita also teaches the apparatus wherein said saturation conversion means (FIG 44 and FIG 45) performs saturation conversion for an image which has undergone the gradation correction (column 9, line 21-24) by

said gradation correction means. Also it is inherent that gradation correction is required during the gradation conversion process which is clearly described by Miyashita.

Referring to claim 14, Miyashita further teaches the apparatus wherein said generation means comprises:

Highlight calculation means (FIG 25, FIG 26A, FIG 26B, FIG 26E and FIG 26F) for calculating highlight area information (column 9, line 25-31) of an image on the basis of the color distribution; and

White balance calculation means (FIG 28-115 and 117) for calculating white balance information on the basis of the highlight area information (FIG 29-115 and 117, FIG 30-115 and 117, FIG 31-115 and FIG 32-115) and a predetermined highlight value (column 10, line 24-32, "HL" parameters), and

Said gradation correction means corrects gradation of the image on the basis of the white balance information and the highlight value (column 10, line 25-44).

It is inherent that highlight and intensity are the white balance calculation. Without these two parameters, white balance calculation can not be processed properly.

Referring to claim 15, Miyashita discloses the apparatus wherein said generation means comprises:

Shadow calculation means for calculating shadow information of an image (FIG 25, FIG26C, FIG26D-FIG26F, FIG28-32); and

Black balance calculation means (FIG 25, FIG26C, FIG26D-FIG26F and

FIG28-116 and 117) for calculating black balance information on the basis of the

shadow area information (FIG 28, 116-117; FIG 29,116-117; FIG 30, 116-117)

and a predetermined shadow value (column 10, line 24-32, "SD" parameters), and

Said gradation correction means corrects gradation of the image on the

basis of the black balance information and the shadow value (column 10, line 25-

44).

It is inherent that shadow and the intensity are also the black calculation.

Without these two significant means, black balance calculation can not be

determined.

For claims 16-18, please refer back to the explanation of claims 1-3.

For claim 19, please refer to claim 1 for all the limitation. Furthermore,

Miyashita discussed the concept of recording medium (storage system) (column

1, 64-67) that allow program codes (software or executable program) (column 3,

line 62-63) to allow user to control the image processing method. Therefore, it is

inherent to have a recording medium comprising program codes of an image

processing method comprises the limitation of claim 1.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been obvious at the
> time the invention was made to a person having ordinary skill in the art to which said subject matter
> pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita

U.S. Patent No. 6,031,543 as applied to claim 9 above, and further in view of Nakamura

U.S. Patent No. 5,497,431.

Referring to claim 11, Miyashita failed to show the color space conversion

process wherein RGB is the first color space and HLS is the second color space.

However, Nakamura teaches that RGB can be the first color space and HLS is the second

color space (FIG 2, 102). Therefore, it would have been obvious for RGB as the first

color space to convert to HLS as the second color space during the saturation and

gradation conversion process.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to image dividing methods in general:

U.S. Pat. No. 5,754,316 to Hayashi et al, teaches color correction various data correction.

U.S. Pat. No. 5,442,717 to Murakami, teaches sharpness processing apparatus.
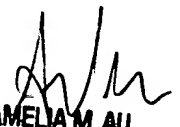
7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5397 for regular communications and 703-308-5397 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC Customer Service whose telephone number is 703-306-0377.

BL
June 27, 2002

AMELIA M. AU
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